REMARKS

This application was filed with 26 claims. Claims 1-7 and 18-23 have been rejected. Claims 8-17, and 24-26 have been allowed. Claims 1 and 18 have been amended. Mis-numbered original Claims 23-25 have been renumbered as Claims 24-26 and Claims 25 and 26 have been further amended to be dependent on renumbered Claim 24. Therefore, Claims 1-26 are pending in the Application. Reconsideration of the application based on the claims as amended and arguments submitted below is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 1-7, 18-19, 21-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over DeZorzi (US Patent No. 6,232,875). These rejections are respectfully traversed.

DeZorzi describes an apparatus and method for controlling a tire condition module. In the single embodiment disclosed, the apparatus includes a motion detector 32 that provides a motion signal to an ASIC 38. The motion signal has "an electrical characteristic or state" that indicates movement of the wheel. (col. 3, lines 30-31) As further described, the motion detector 32 is "in the form of a normally open centrifugal switch." Thus, the motion detector is a logic-type device that can have either an open state (centrifugal force below a threshold) or a closed state (centrifugal force above the threshold). Accordingly, the motion detector in the DeZorzi apparatus provides a HIGH or LOW logic motion signal to the controller

72, each at predetermined voltages. The threshold is such that the logic signal from the motion detector represents either an absence of vehicle movement or vehicle movement at a speed above a threshold speed, e.g. 10 MPH. (col. 5, lines 1-18) In summary, the motion detector disclosed by DeZorzi is a digital device that detects force.

By comparison, a shock sensor as described and claimed in Applicant's system and method is an analog device that detects a change in force. More particularly, a shock sensor is an analog sensor providing an output signal that is functionally dependent on the orientation of the sensor with respect to the direction of gravitational force. The shock sensor provides an analog signal that represents the magnitude of any change in force that is associated with a change in orientation of gravitational force as the vehicle wheel rotates. Unlike the motion detector in DeZorzi - which provides a clear and unambiguous logic output - a shock sensor provides a low level analog signal that requires additional signal conditioning circuitry to allow its practical application in a vehicle environment. Moreover, in a digital signal, all other signal parameters (e.g., amplitude, frequency, phase, etc.) are removed whereas in a shock sensor, such other parameters are preserved in the output signal for further processing as desired.

Claim 1 has been amended to make it clear that the claimed shock sensor functions – and is different from a motion sensor - as described above. Paragraph 3 of the Office Action concludes that a person of ordinary skill in the art would realize that a motion sensor and shock sensor are "equivalent means" that "can be used in

place of one another." This conclusion is incorrect because to substitute a motion sensor for shock sensor would have the following effects: (1) the output signal would represent force not a change in force; (2) there would be no output signal for motion or force changes during the times when the vehicle is moving at less that the predetermined threshold speed; and (3) the output signal would be stripped of all parameters such as magnitude, frequency, and phase. Also, DeZorzi uses the motion detector for the sole purpose of changing the operational mode of the controller 72, from a "normal" mode to "pre-sleep" and "sleep" modes. (See col. 7, line 14 – col. 8, line 16) Accordingly, a person of ordinary skill in the art would not be motivated to modify his system to substitute a shock sensor for the motion sensor because this would add significant complexity in signal conditioning circuitry and would not provide a signal indicative of force above a vehicle speed threshold. For all of these reasons, Applicant submits that Claim 1 as amended is patentable over DeZorzi.

Regarding Claim 3, Applicant suggests that a person of ordinary skill in the art would not be motivated to modify the apparatus of DeZorzi to use a shock sensor, amplifier, and filter because these would be unnecessary to DeZorzi's application of a motion sensor having a simple logic output. Conversely, it would be improper to use Applicant's disclosure to provide that motivation.

Regarding Claim 4, there is no teaching in DeZorzi of using A/D conversion techniques on the motion detector signal because there is no need for such conversion. Also, the mere fact that DeZorzi uses A/D conversion on signals from

his tire condition sensors does not provide a motivation to use such techniques on a signal from the motion detector. DeZorzi's apparatus does not need to interpret the data embedded in an analog signal from a sensor that responds to a change in force. The DeZorzi apparatus only needs to know if the vehicle is moving above a speed threshold.

Regarding Claim 5, it is apparent that the claimed comparator is used to convert an analog signal to a digital signal when the analog output from the shock sensor is compared with an analog threshold. In DeZorzi, the signal from the motion detector is already digital.

Regarding Claim 7, there is no teaching in DeZorzi of using an interface to a shock sensor that provides an amplified motion signal. The motion signal from DeZorzi's centrifugal switch does not need amplification or A/D conversion. DeZorzi's controller does not need to interpret the data embedded in an analog signal from a sensor that responds to a change in force. The DeZorzi controller only needs to know if the vehicle is moving above a speed threshold.

Claim 18 as amended recites a "shock sensor" that provides an analog signal. Regarding the rejection of Claim 18, Applicant incorporates the discussion above in response to the rejection of Claim 1.

Regarding Claim 19, Applicant incorporates the discussion above in response to the rejections of Claim 1 and Claim 4.

Regarding Claim 21, DeZorzi discloses changing the output signal between two fixed HIGH-LOW levels using a centrifugal switch only when the vehicle speed

goes above or below a pre-determined speed threshold. This is not a "substantially periodic signal" as would be understood by a person of ordinary skill in the art, nor is it a signal that changes in response to rotation of the wheel, as required by Claim 21. In Applicant's invention, the periodic signal from the shock sensor can be used, for example, to determine the speed of the vehicle based on the period of wheel rotation. The HIGH-LOW signals from the DeZorzi apparatus cannot be used for that purpose.

Regarding Claim 22, DeZorzi says nothing about generating a periodic signal of any kind from the motion detector let alone a resonant signal. To a person of ordinary skill in the art, the term "resonant signal" clearly implies a signal that varies in amplitude at a certain frequency, such as resonant frequency. In the case of Applicant's invention, such resonant frequency can correspond to the periodic rate of rotation of the wheel. There is no way that the motion detector (centrifugal switch) in DeZorzi can provide such a signal.

Regarding Claim 23, DeZorzi does not disclose a wideband noise signal produced by the motion detector. A properly operating centrifugal switch that moves between normally closed and open positions does not generate any noise at all beyond routine switching transients. The only noise on the signal would be generated in the vehicle power system, not by the motion detector.

Claim 20 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over DeZorzi (US Patent No. 6,232,875) in view of McClelland (U.S. Patent No. 6,710,708. This rejection is respectfully traversed. Claim 20 is dependent on Claim

18, which includes a shock sensor. McClelland does not disclose the use of a shock sensor. Therefore, the arguments stated above in response to the rejections of Claims 1, 4, 18, and 19 are incorporated herein.

Allowable Subject Matter

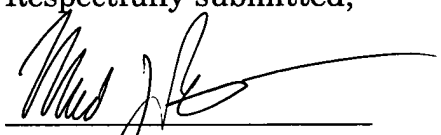
Applicant acknowledges and appreciates the allowance of original Claims 8-17 and Claims 24-26 as renumbered. Renumbered Claims 25 and 26 have been amended to reflect dependency from renumbered Claim 24.

Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions the Commissioner to extend the time for responding to the September 19, 2005, Office Action for two months from December 19, 2005, to February 19, 2006. Applicant encloses herewith a check in the amount of $450.00 made payable to the Director of the USPTO for the petition fee.

The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Response to Deposit Account 23-0035.

Respectfully submitted,



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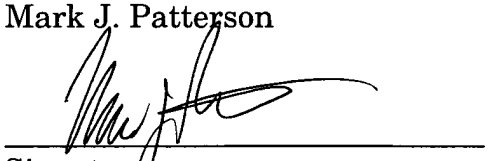
CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that this Response and Amendment in Application Serial No. 10/761,772, having a filing date of January 20, 2004, and a check in the amount of $450.00 are being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on February 21, 2006.

Mark J. Patterson



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Date